haziness in level-counting, not only in Escher pictures, but in hierarchical, many-level systems. We will sharpen our understanding of this haziness later on. But let us not get too distracted now! As we tighten our loop, we come to the remarkable *Drawing Hands* (Fig. 135), in which each of two hands draws the other: a two-step Strange Loop. And finally, the tightest of all Strange Loops is realized *in Print Gallery* (Fig. 142): a picture of a picture which contains itself. Or is it a picture of a gallery which contains itself? Or of a town which contains itself? Or a young man who contains himself? (Incidentally, the illusion underlying *Ascending and Descending* and *Waterfall* was not invented by Escher, but by Roger Penrose, a British mathematician, in 1958. However, the theme of the Strange Loop was already present in Escher's work in 1948, the year he drew *Drawing Hands*. *Print Gallery* dates from 1956.)

Implicit in the concept of Strange Loops is the concept of infinity, since what else is a loop but a way of representing an endless process in a finite way? And infinity plays a large role in many of Escher's drawings. Copies of one single theme often fit into each other, forming visual analogues to the canons of Bach. Several such patterns can be seen in Escher's famous print *Metamorphosis* (Fig. 8). It is a little like the "Endlessly Rising Canon": wandering further and further from its starting point, it suddenly is back. In the tiled planes of *Metamorphosis* and other pictures, there are already suggestions of infinity. But wilder visions of infinity appear in other drawings by Escher. In some of his drawings, one single theme can appear on different levels of reality. For instance, one level in a drawing might clearly be recognizable as representing fantasy or imagination; another level would be recognizable as reality. These two levels might be the only explicitly portrayed levels. But the mere presence of these two levels invites the viewer to look upon himself as part of yet another level; and by taking that step, the viewer cannot help getting caught up in Escher's implied chain of levels, in which, for any one level, there is always another level above it of greater "reality", and likewise, there is always a level below, "more imaginary" than it is. This can be mind-boggling in itself. However, what happens if the chain of levels is not linear, but forms a loop? What is real, then, and what is fantasy? The genius of Escher was that he could not only concoct, but actually portray, dozens of half-real, half-mythical worlds, worlds filled with Strange Loops, which he seems to be inviting his viewers to enter.

Gödel

In the examples we have seen of Strange Loops by Bach and Escher, there is a conflict between the finite and the infinite, and hence a strong sense of paradox. Intuition senses that there is something mathematical involved here. And indeed in our own century a mathematical counterpart was discovered, with the most enormous repercussions. And, just as the Bach and Escher loops appeal to very simple and ancient intuitions—a musical scale, a staircase—so this discovery, by K. Gödel, of a Strange Loop in